

## THE HISTORY OF CAST STEEL.

How the Secret of Its Manufacture Was Revealed to the World.

The history of cast-steel presents a curious instance of a manufacturing secret stealthily obtained under the cloak of an appeal to philanthropy. The main distinction between iron and steel, as most people know, is that the latter contains carbon. The one is converted into the other by being heated for a considerable time in contact with powdered charcoal in an iron box. Now steel thus made is unequal. The middle of a bar is more carbonized than the ends, and the surface more than the center. It is, therefore, unreliable. Nevertheless, before the invention of cast steel there was nothing better. In 1730 there lived at Attercliffe, near Sheffield, a watchmaker named Huntsman. He became dissatisfied with the watch springs in use and set himself to the task of making them homogeneous. "If," thought he, "I can melt a piece of steel and cast it into an ingot, its composition should be the same throughout." He succeeded. His steel soon became famous. Huntsman's ingots for fine work were in universal demand. He did not call them cast steel.

That was his secret. About 1770 a large manufactory of this peculiar steel was established at Attercliffe. The process was wrapped in secrecy by everyone within reach. True and faithful men were hired, the work divided and subdivided, large wages paid and stringent oaths administered. It did not avail. One midwinter's night, as the tall chimney of the Attercliffe steel works belched forth, a traveler knocked at the gate. It was bitter cold, the snow fell fast, and the wind howled across the moat. The stranger, apparently a plowman or agricultural laborer seeking shelter from the storm, awakened no suspicion. Scanning the wayfarer closely, and moved by motives of humanity, the foreman granted his request and let him in.

Feigning to be worn out with cold and fatigue, the poor man sank upon the floor and soon appeared to be asleep. That, however, was far from his intention. He closed his eyes apparently only. He saw workmen cut bars of steel into bits, and place them in crucibles in a furnace. The fire was urged to its extreme power until the steel was melted. Clothed in wet rags to protect themselves from the heat, the workmen drew out the glowing mold. Mr. Huntsman's factory had nothing more to disclose. The making of cast steel had been discovered.—Inventive Age.

## Sugar Bounties.

Mr. Chamberlain pointed out to a deputation of West India merchants and planters, who complained of bounties by other countries, that in respect to some colonies it might be possible to make their prosperity less bound up in sugar planting. He expressed the opinion that there was no chance of getting the House of Commons to sanction countervailing duties to compel foreign countries to stop giving sugar bounties.

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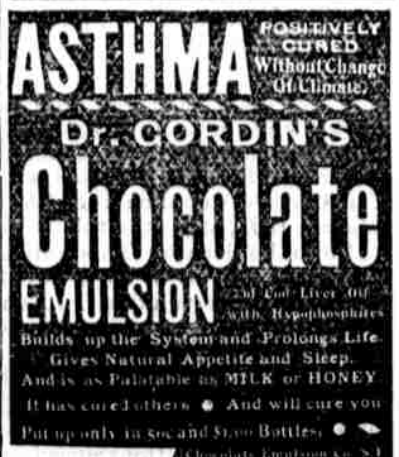
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